

BETEKHTIN, A.G.; VOL'FSO^N, F.I.; GENKIN, A.D.; DUBROVSKII, V.N.; YEROFEEV,
B.N.; KONSTANTINOV, R.M.; MATERIKOV, M.P.; SOKOLOV, G.A.; STRAKHOV,
N.M.; TATARINOV, P.M.; TOMSON, I.N.; SHADJUN, T.N.; SHATALOV, Ye.T.;
SHIPULIN, F.K.

Oleg Dmitrievich Levitakii; obituary. Geol. i rud. mestorozh. no.2:
(MIRA 14:5)
3-6 Mr-Ap '61.
(Levitakii, Oleg Dmitrievich, 1909-1961)

YEROFEEV, B.N. (Chita, Khabarovskaya ul., d.2-A, kv.24)

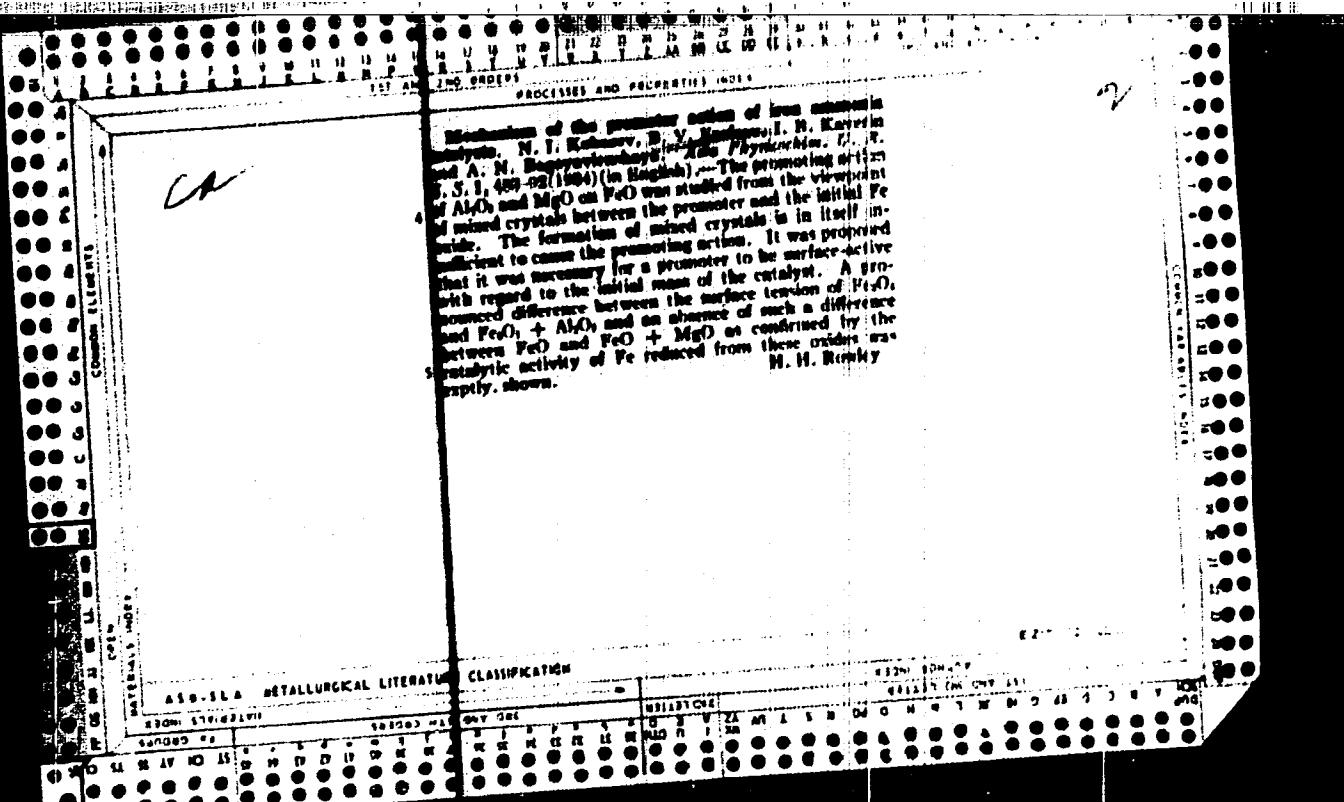
Tomographic examination in the diagnosis of osteomyelitis. Test.rent.
1 rad. 34 no.4:37-39 Jl-4g '59. (MIRA 12:12)

1. Iz kafedry radiologii i rentgenologii (zav. - prof. P.D. Yal'tsev
[deceased] i kafedry obshchey i gospital'noy kirurgii sanitarno-gigi-
yenicheskogo fakul'teta (nauchnyy rukovoditel' - prof. P.I. Sapozhkov)
i Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(OSTEOMYELITIS radiography)

YEROFEEV, B. N.

Organization of the teaching of roentgenology and radiology.
(MIRA 15:7)
Med. rad. no.12:61-63 '61.

1. Is Chitinskoye meditezhnoe uchilishche.
(RADIOLOGY, MEDICAL--STUDY AND TEACHING)



		PROCESSES AND PROPERTIES INDEX			
CA				2	
<p>The hydrolysis of aluminum nitride by active hydrogen. N. I. Kabanov, B. V. Shchegolev and V. M. Savchenko. Russ. Acad. Sci., U. R. S. S. [N. S.], 2, 200-92 (1968) (in Russian).—Al nitride (made by passing NH₃ over powdered Al at 800-900° and reacts 27.73% AlN) was placed in a U-shaped quartz discharge tube and H₂ or H₂ and He (1:1) at 1-4 mm. pressure was passed over it while an elec. discharge of 0.45 amp. was passing through the tube. During the expt. the tube was kept in liquid air to condense the NH₃ formed. In every case NH₃ was formed and at the same time an AlN_x was formed that was of higher purity (which even in liquid air). Because of this the NH₃ content of the impure nitride increased during the expt. in spite of the NH₃ that was formed. It also prevented the formation of a coating of Al over the AlN_x that would stop the formation of NH₃. The part of NH₃ formed varied but in some cases amounted, in an hr., to about 30% of the N₂ in the AlN. The activated H₂ was in theory, form because the hydrolysis was most rapid when the discharge had the color of the spectrum line of H.</p>				John H. Miller	
ASG-LSA METALLURGICAL LITERATURE CLASSIFICATION					
FROM LIBRARY					
SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED
100000	100000	100000	100000	100000	100000

CA

A new method for investigating catalyst surfaces.
B. Kondr'ev and K. Moshkov. *Acta Physicochim. U. R. S. S.* 4, 480-60 (1958) (in English). ... The method is based on the fact that the elec. resistance of metallic filaments placed in a glass tube between 2 electrodes is highly decreased under the influence of a p. d. between the electrodes induced by radio waves. It is on this principle

that the arrangement of catalyst used in radio receiver sets is based. After pure V₂O₅ filaments in a glass tube were reduced in H₂ at 600° to remove surface oxide films, the resistance of the filaments at room temp. fell from an immeasurably high value to a few ohms and did not change under the action of electromagnetic radiation sent by a Mertz vibrator. The admission of air to the tube increased their resistance up to some thousand ohms and the tube recovered its lost capacity of acting as a catalyst. The expt. was repeated; on Pt 20%+catalyst with 17% Al₂O₃ as a promoter was used. In spite of prolonged reduction at 400°, this catalyst retained its capacity of acting as a catalyst. Such a result shows that at the surface of a promoted Pt. catalyst there is a film of adsorbed Al₂O₃ which cannot be reduced under the exptl. conditions.

H. M. Remley

ABE-SLA METALLURGICAL LITERATURE CLASSIFICATION

SUBJ. STATEMENT		SECTION NO. OF ONE		SERIALS												
M	U	M	AV	HD	AS	S	R	P	D	H	M	K	L	E	M	O
U	W	U	V	W	X	Y	Z	U	V	W	X	Y	Z	U	V	W
W	X	Y	Z	U	V	W	X	Y	Z	U	V	W	X	Y	Z	U
X	Z	U	V	W	X	Y	Z	U	V	W	X	Y	Z	U	V	W
Z	U	V	W	X	Y	Z	U	V	W	X	Y	Z	U	V	W	X

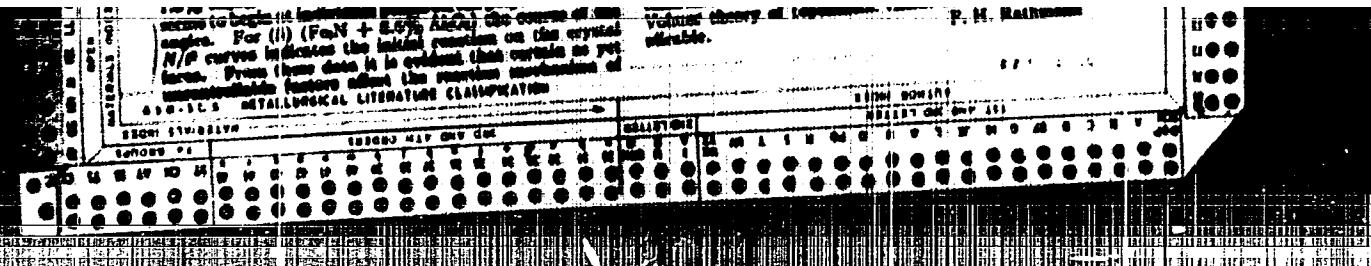
Reactions with particles of solid substances. I. Kinetics of the reaction in poly crystalline substances. H. V. Kudryavtsev. *J. Phys. Chem. (U. S. S. R.)* 9, 826-70 (1957).—Theoretical-mathematical. Six possible cases of the kinetics of a reaction involving one solid cubic component are considered and simple equations derived to express the relation between substance reacted and the time. These equations are then generalized for any kind of geometrically shaped body. V. H. Rathmann

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001962820015-7

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APPROVED FOR RELEASE: 03/20/2001

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*BC**a 1*

Kinetics of reactions in which oxide particles. IV. Thermal decomposition of mercuric oxide. B. V. Kavunov and K. I. Tsvetova [J. Phys. Chem., Moscow, 1952, 26, 566-580; cf. A., 1954, 1, 423].—The decompr. at 400-500° is autocatalyzed by the Hg formed, apparently through this being adsorbed on the surface of the HgO and creating a configuration facilitating reaction. Hg added to the system has no catalytic action. Different samples of Hg vary considerably in reactivity. Reaction starts in the edges of the crystals, but is often complicated by sintering. The energy of activation of the decompr. is 67,000 g.-cm.

650-114 METALLURGICAL LITERATURE CLASSIFICATION

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Cn
Physical-Chemical Institute of Steklov, L. V. Klimov
discusses the heating of the iron and converters' (C. A. H. 1962) results on the work of Movchan and Kuznetsov (C. A. 1962) results on the work of Movchan and Kuznetsov (C. A. 1962). The two explanations for the highest yields equal. NH₃ reacts, being immediately after addition of a catalyst passes to be bound not to a hydride form of adsorbed N, one or of surface nitride, but rather to a desorption of adsorbed NH₃. Shaply, M. Nogina, N. N. 1962-6 (in Chernozem). There the increased yield of NH₃ observed in the first minutes after passing a catalyst passes over the ammonia catalyst occurs only when the passes (O₂, H₂), etc.) is accompanied by its heat effect. When only N₂ + passes is used, K. concludes that the effect is truly a hydride form of the adsorbed nitrogen and not a desorption of previously formed NH₃. The observed formation of NH₃ is quantities greater than the usual equal; excess of NH₃ does not violate thermodynamic principles, since the free energy of the catalyst surface has been lowered by adsorption of the passes, and hence a new equal, state is obtained. V. N. R.

610-11A METALLURGICAL LITERATURE CLASSIFICATION

ITEM NUMBER

19620 MAY 24 1962

CLASSIFICATION

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SEARCHED

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SEARCHED INDEXED FILED

YEROFEEV, B. V.

"On the Kinetic and Catalytic Reduction of Carbon Monoxide to a Carbohydrate by the use of Hydrogen over a Cobalt-Thorium Catalyst." Acta Phys Vol. XIII No. 1, 1940, Chem inst. White Russian Acad. of Sci. Minsk.

YEROFEEV, B.V.

USSR

"Some Problems of Peopokinetics."

Zhur. Fiz. Khim., Vol. 14, No. 9-10-, 1940.

Oct 22 1951

PROTECTED AND PROTECTED CLASS

BC

A-1

Hydrogenation of Ni₃NH₂H₂O by H₂. A. A. Balashov, S. V. Kostylev, K. A. Nesterchuk, and M. S. Shashkovskaya. *J. Gen. Chem. USSR*, 1968, 38, 617-620. When NiCl₂ dissolved in HCl reacts with MgPhH₂ in H₂O, C₂H₅OH or PhMe in a 1:1 ratio, 0-10 mols. of H₂ are absorbed for 1 mol. of NiCl₂. The low absorption is due to formation of NH₂H₂O and the high absorption to reduction of H₂ to the Ni hydride suspension and, to a lesser extent, to hydrogenation of the aromatic solvent or of the dioxane, present in PhMe. The hydrogenated products have been isolated but not identified. When NiCl₂ reacts with Mg beryl boride in H₂O at 100°C, the amount of H₂ absorbed is 3.7-4.7 mols. Thermal analysis of Ni₃NH₂H₂O shows these solutions above 60°C to be stable; earlier investigators found NH₃

since they decomposed it by acids and induced hydrogenation of C₂H₅OH by NH₃. The rate σ of absorption of H₂ by NH₃-MgPhH₂ solution is greatly suppressed but clearly above a mol. after 2-6 mols. of H₂, and a max. after 8-9.5 mols., have been absorbed. In some cases a half a min. of the absorption of 1 H following a hydride (NH₂H₂O). The conversion of the stable hydride (NiNH₂) is independent of temp. (10-100°C) but σ is lower at higher temp. If σ is high, the total amount of H₂ absorbed is also high. An formation of NH₃ can take place without hydrogenation and no hydrogenation occurs without formation of NH₃; the hydrogenation appears to be more sensitive to poison than is the synthesis of hydride. Thinner glass the absorption of H₂ is greater. The NH₃ formed in H₂O remains in dissolved solution when [MgPhH₂] is >0.8 mol. and pyridine when [MgPhH₂] is <0.8 mol.; the excess of MgPhH₂ functions as a protective agent.

J. J. B.

ASG-SLA METALLURGICAL LITERATURE CLASSIFICATION

14000 SYNTHEZ

10000 MET. OX. RED.

10000 REACT. INORG.

EROFEEV, B. V.

"Topochemical factors in the formation of the hydrides of nickel." Balandin, A. A., and Erofeev, B. V. (p. 170)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1942, Vol 12, No 3-4.

Composition and mechanism of formation of the hydrides
of Ni. I. Composition of the hydrides of Ni. A. A.
Nathanson, N. V. Kostyuk, S. A. Perchinskaya and M. R.
Nekrasova. *Zhur Fizika Khimii* 17, N. S. 10, 1037-1041
(1943) (in Russian); cf. C. A. 37, 20739. Under the experimental
conditions described by Nekrasova, et al. (C. A. 38, 187) the
hydride of Ni formed has the formula Ni_2H_6 , rather than
 NiH_2 . Ni_2H_6 was proved by interreaction of $NiCl_2$, H gas,
and C_6H_6 which dissolved in Bu_2NCl . C_6H_6 , toluene or
xylene in a Ni atom. It was analyzed by thermal decomposi-
tion to Ni and H_2 . Ni_2H_6 is formed as an intermediate product
and strongly catalyzes the hydrogenation of C_6H_6 and
vinyl. — V. M. Nathanson

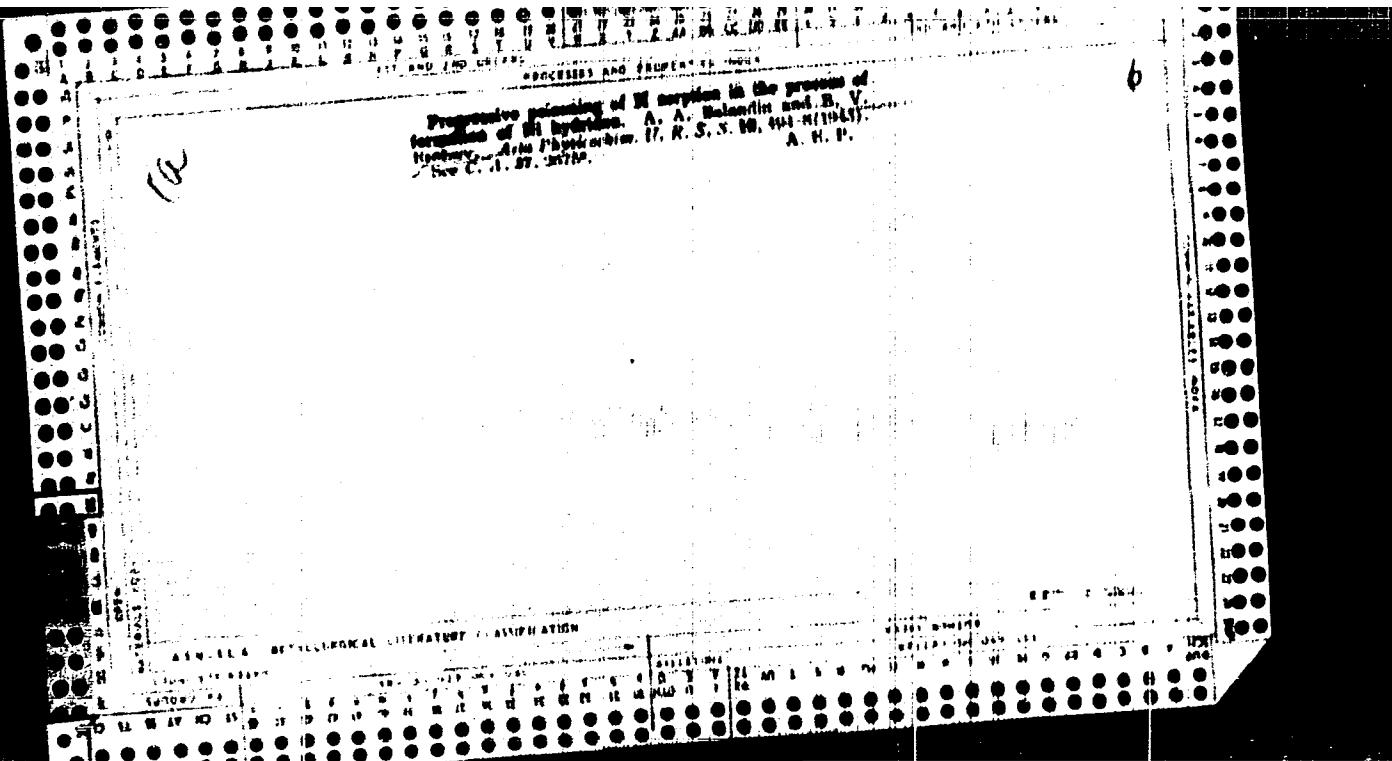
PROCESSED AND PROPERTIES REPORT

(a) 6
Composition and mechanism of formation of the hydrides of Ni. II. Reaction medium. A. A. Nekrasov, N. V. Borodov, R. A. Porcharyskaya and M. S. Stakhovska. Zvezda publication. U. R. S. S. R., 23D-10(1962) (in Russian); cf. C. A. 56, 24462.—NiCl₂ is reduced to metallic Ni by FeMg and CaMg. The reduced Ni then reacts successively with H₂ and forms NiH, NiH₂, and NiH₃ respectively. These hydrides can give solid solutions with Ni. If aromatic compounds are present, they are catalytically hydrogenated on Ni. These processes are very sensitive to pH value, the catalytic hydrogenation being predominant, then the hydride formation, and finally the reduction of Ni to Ni₂ hydride. The stability of the rate of the hydrides of Ni depends upon the adsorption of the organometallic compounds on their surface. P. H. R.

850-514 METALLURICAL LITERATURE CLASSIFICATION

SEARCHED

SERIALIZED



12

Kinetics of the thermal decomposition of silver oxalate.
S. V. Andreev, P. I. Radovitskii, and A. A. Vol'kova (Inst. of Chem., Acad. Sci. Belarusian, Minsk). *J. Phys. Chem. (U.S.S.R.)* 26, 1429-1432 (1952) (in Russian). -- The progress of the reaction $Ag_2OOC-COOAg \rightarrow CO_2$ in darkness was followed by gas-analysis methods. The rate v of the reaction was smaller the older the particles (5-30 days), in a given time, it increased to a maximum (5 days), at 125°, and 145°, and then decreased to zero within 2 or more hrs. If the heating was interrupted for 30-60 sec., a second heating resulted in a value of v which was the same as if no interruption had occurred; thus, the decompos. of $Ag_2OOC-COOAg$ is not a chain process. The gradual diminution of the decompos. must be due to the catalytic effect of Ag . This conclusion agrees with the observations that for the first 50-60% of the decompos., the reaction decreased, i.e., given by the equation $\log(1 - v) = -A^{\circ}/T + B$, t being time and A and B constants, v is 4 to 5 (cf. *Russ. Chem. Rev.* (U.S.S.R.) 26, 441-44 (1952)). The no. of cations in the original formation of Ag crystals is one. From the increase of 8 at 145° temp., an energy of activation of 129, 170 cal./mole.

J. J. BURMAN

ADM-ELA METALLURGICAL LITERATURE CLASSIFICATION

EAST-STD-1001C

SEARCHED	INDEXED	FILED	SEARCHED	INDEXED	FILED
SEARCHED 1-2	INDEXED 100-1000	FILED 100-1000	SEARCHED 1-2	INDEXED 100-1000	FILED 100-1000

PACKING AND PREVENTING HARM

Electron of heterogeneous exchange reactions. I.
Study of solid reactions by means of electron microscope
Karl Heinz Klemm (1941), Chemische Technik, Chalmers
Tech., Göteborgs-landet, 1941, Kongl. Mineral.
Geol. Ark., No. 18, 1-24 (1942) (in German); cf. G.A. 43,
1942, 1040. — The general features of heterogeneous reactions,
in which target atoms are involved, are outlined.
The following 3 steps are then considered in greater detail:
(1) diffusion through the surrounding solid, or gas
medium to the solid surface, (2) the chem. exchange at
the boundary layer, (3) diffusion into the interior of the
solid phase. A. Van't Hoff

A. Van Houtte

430-114 METALLURGICAL INSTITUTE OF CANADA

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EROFEEV, B. V.

25383. EROFEEV, B.V.

O Reaktsii E. I. Orlova. (Reaktsiya sintezavyyshikh uglevodorodov iz okisi.
ugleroda i vodoroda). Uspekhi khimii, 1948, Vyp. 3, s. 370-71. - Bibliogr: s. 371

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

YEROFEEV, B. V.

Bel'Kovich, P. I., Volkova, A. A., and Yerofeev, B. V. "The kinetics of the thermal disintegration of stable solutions of silver oxalate and sodium oxalate", Izvestiya Akad. nauk BSSR, 1948, No. 6, p. 145-59.

SO: U-3261, 10 April 55. (Leto is 'Zhurnal 'nykh Statey, No. 11, 1949.)

YEROFEEV, B. V.

YEROFEEV, B. V. "Successes in investigations of chemical kinetics and catalysis during 30 years of Soviet power", In the collection: Materialy noyab' skoy sessii Akad. nauk BSSR, 1947, Minsk, 1949, p. 107-15.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

YEFREYEV, Boris Vasil'yevich

"Successes in the Field of Topokinetics," Izvestiya Akademii Nauk Belorusskoy SSR, 1950, No. 4

SO: Bol'shaya Sovetskaya Entsiklopediya, 2nd edition, Vol XV, Moscow, 1949

CA

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[Redacted]
Minutes of conversation (unreliable) regarding the
first contact, P.W. [redacted] (now Chairman, ARPA). Also,
Mr. [redacted], Dr. [redacted] and Dr. [redacted] present. Reference
meeting the minutes of previous conference and date.
Paul W. [redacted]

EROFEEV, B. V.

Kinetics of transformations of polymorphous modifications of ammonium nitrate.

I. General character of the kinetics of transformation of the modification IV. into the modification III. B. V. Erofeev and N. I. Mitshevich. Page 1235.

Academy of Sci. Belor. SSR
Inst. of Chemistry
Minsk
March 6, 1950.

SO: Journal of Physical Chemistry, Vol. 74, No. 10, October 1950

YU REFFERRED BY:

BIL'KIVICH, P. I.; VOLKOVA, A. A.; YEHOROVYEV, B. V.; LAZAROV, M. Ya.

*Effect of concentration on the velocity of thermal decomposition
of silver oxalate in a vehicle. Izv. AN BSSR no.1:163-175 Ja-F '51.
(Thermochemistry) (Silver oxalate) (MLRA 8:10)*

YEROFYEYEV, B. V.

PA 192T43

/chemistry - Oxidation

Buy 51

"Kinetics of Reactions Taking Place Under Partial Participation of Solid Substances. Applicability of the Generalized Equation of Chemical Kinetics to the Thermal Decomposition of Potassium Permanganate,"
B. V. Yerofeyelev, I. I. Smirnova

"Zhur Fiz Khim, Vol XIV, No 9, pp 1098-1102

Investigated kinetics of thermal decomps of unre-crystd KMnO₄ at 218° and found that this process occurs according to eq. alpha = exp (-kt²), where alpha indicates the fraction that decomps. The 2-power indicates that whole crystal facets function as reaction centers.

"APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R001962820015-7

USSR.

A new topographic equation. P. L. Bel'kovskii and S. V. Vinogradov. Vestn. Akad. Nauk Belarus. S. S. R. 1952, No. 4, 116-21 (cf. preceding abstr.).—A new topographic equation.

APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R001962820015-7"

LEVKOVICH, M. V.; MITSKEVICH, N. I..

Ammonium Nitrate

Kinetics of transformations of polymorphous modifications of ammonium nitrate. Part 2.
Effect of conditions of preliminary treatment on the rate of transformations of NH_4NO_3
(IV)— NH_4NO_3 (III). Zhur. fiz. khim. 16 No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress November 1952. Unclassified.

EROFEEV, E. V.

USSR/Chemistry - Explosives	Jan 52
"Kinetics of Transformations of Polymorphous Modifications of Ammonium Nitrate. III. Effect of Conditions of Preliminary Treatment on the Rate of the Transformation $\text{NH}_4\text{NO}_3 \rightarrow (\text{IV})\text{NH}_4\text{NO}_3(\text{III})$," B. V. Erofeyev, N.I. Mitskevich, Inst of Chem, Minsk, Acad Sci Belorussian SSR	
"Zhur Fiz Khim" Vol XXVI, No 6, pp 848-861	
Discusses results of the investigation of effects of drying, recrystn, and mech disintegration on the rate of transformation IV-III (cf. "Zhur Fiz Khim" Vol XXIV, 1235, 1950).	200000

YEROFSEYEV, B. V.

Step 52

USSR/Chemistry - Permanganate Potassium

"Kinetics of Thermal Decomposition of Potassium Permanganate," B. V. Yerofseyev and I. I. Smirnova, Inst of Chem, Acad Sci Belorussian SSR, Minsk

Zhur Fiz Khim, Vol 26, No. 9, pp 1233-1243

Studied the kinetics of the thermal decompn of crushed and uncrushed recrystallized KMnO₄ in a temp range of 211.5° - 227.6° C. Discovered that the decompn of KMnO₄ has a typical autocatalytic character and that practically the entire range of the reaction can be quantitatively described by the Kolmogorov-Yerofseyev eq. The values of "n", in most cases, were close to four or five, thus indicating single-stage and double-stage processes in the formation of the starting centers of the reaction, which arise at separate points on the surface of the crystals. The crushing of the KMnO₄ crystals did not change the general character of the kinetics of the reaction and left the value of "n" without substantial change. This led the authors to discount the theory of E. G. Prout and F. C. Tompkins (Trans. Farad Soc, Vol 40, 486, 1944).

263 T 15

USSR/Chemistry - Ammonium Nitrate

Nov 52

"Kinetics of Conversions of Polymorphous Modifications of Ammonium Nitrate: III. Kinetics of the Conversion of NH_4NO_3 (III) \rightarrow NH_4NO_3 (IV)", B. V. Yerofeyev and N. I. Mitskevich, Inst Chem, Acad Sci Belorus SSR, Minsk

24T11

"Zaur Riz Khim" Vol 26, No 11, pp 1631-1641

The authors state that the rate of conversion of NH_4NO_3 modifications III \rightarrow IV, similar to the rate of conversion of IV \rightarrow III, does not depend on the repetition of the expt. The rate of conversion of

(1)

24T11

III \rightarrow IV in expts conducted under identical conditions (of temp and time elapsed after the conversion of IV \rightarrow III) is the same, within the margins of exptl error. Protected keeping of III at the conversion temp of IV \rightarrow II (35.0-36.0°) leads to a decrease in the rate of the subsequent conversion of III \rightarrow IV. The preliminary initial heating of III at 55-60° also decreases the rate of the conversion III \rightarrow IV. The kinetics of the conversion of the modifications NH_4NO_3 (III) \rightarrow NH_4NO_3 (IV) can be expressed by the topokinetic eq $\frac{dx}{dt} = - \exp(-kt_n) \cdot \frac{1}{1 + \exp(-kt_n)}$ throughout the whole range of the expts conducted with tested preps. Crushing the compd leads to a decrease in the rate of conversion of NH_4NO_3 (III) \rightarrow NH_4NO_3 (IV). The authors add that the temp dependence of the rate of conversion of the modifications NH_4NO_3 (III) \rightarrow IV is not subject to the Arrhenius eq. The temp coeff of the rate of conversion III \rightarrow IV is neg.

(3)

4427//

YEROFEEV, B. N.

MIL'KOVICH, P.I.; YEROFEEV, B.N.

Mechanics of the decomposition of some solid substances by heat.
(MZhA 9:1)
Inv. No. I:65-74 Jan '53.
(Thermochimistry)

YEROFEYEV, B. V., and MITSKEVICH, N. I.

"Cryoscopic Determination of Phenol and Ortho-Cresol in Peat Petroleum,"
Inv. AN Belorus. SSR, No 5, pp 103-113, 1953

A tensiometric method (Yerofeyev, B.V., Uch. Zap. Kuzbassk. Gos.
Pad. i Uchit. Inst., 1943, No 7, 65) was used for the determination of
the composition of the phenol fraction in peat petroleum (180-225 degrees).
The phenol content was 14.3 ± 1.4%; the ortho-cresol content was 6.2 ±
0.5%. Naphthalene was not detected. (RZhKhim, No 20, 1954)

SO: Sum, No. 606, 5 Aug 55

YEROFEEV, Boris Vasil'yevich

"Progressive Poisoning of Hydrogen Sorption in the Process of Formation of Nickel Hydrides," Doklady Akademii Nauk #494, No. 6, Vol XVII, 1953

EROFEYEV, B. V.

Jan 53

USSR/Chemistry - Explosives

"Kinetics of the Conversions of Polymorphous Modifications of Ammonium Nitrate. IV. Conversion of NH_4NO_3 (III) \rightleftharpoons NH_4NO_3 (II). B. V. Erofeev and N. I. Mintskevich, Inst of Chem, Acad Sci, Belorussian SSR, Minsk

Zhur Fiz Khim, vol 27, No 1, pp 118-124

The kinetics of the polymorphous conversion of the modification III of NH_4NO_3 to modification II, and the kinetics of the reverse conversion were investigated. The polymorphous conversions of the modifications of NH_4NO_3 , III \rightleftharpoons II, proceed along a

268T19

curve of the autocatalytic type and, in general, are analogous to the previously-studied conversion IV \rightleftharpoons III. The topokinetic equation, $Q = 1 - \exp(-k_1 t)$, adequately describes the kinetics of the conversion of the modifications of NH_4NO_3 , i.e. III \rightleftharpoons II.

268T19

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~~Classification or formate of earlier media~~

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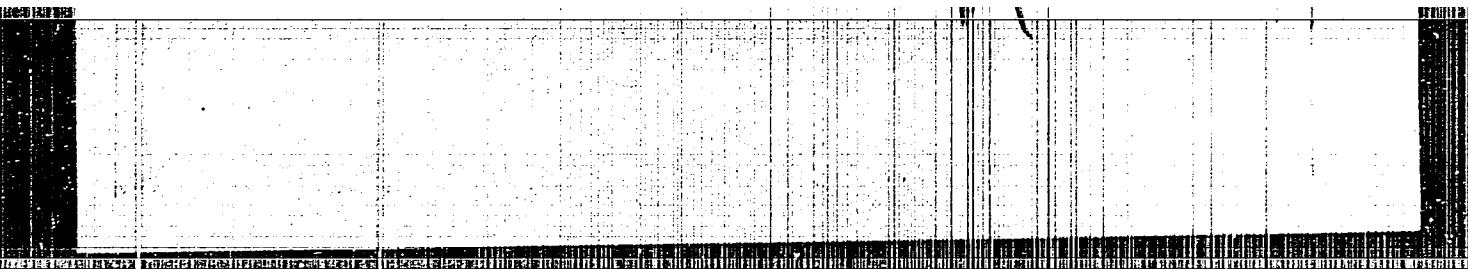
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YEROFEYEV, B. V.

USSR/Organic Chemistry - Naturally Occurring Substances and Their Synthetic Analogs,
B-

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1034

Author: Yerofeyev, B. V., Mitskevich, N. I., and Soroko, T. I.

Institution: Academy of Sciences Belorussian SSR

Title: Conjugated Decarboxylation During the Autoxidation of Dehydroabietic Acid

Original

Periodical: Izv. AN BSSR, 1955, No 2, 131-135 (published in Russian); Vestsi AN BSSR, 1955, No 2, 124-128 (published in Belorussian)

Abstract: It has been established that the autoxidation of dehydroabietic acid (I) is accompanied by decarboxylation. Heating colophony (3 hours at 340°) yields the "pyroacid," which is sulfonated; acid hydrolysis of the sulfodehydroabietic acid yields I, mp 172-173.5° (from alcohol) $[\alpha]_D + 63.77^\circ$. Autoxidation of I is carried out in naphthalene at 85 and 95° in the presence of Co-acetate (II) (one percent by weight based on I). The apparatus described previously (Referat Zhur - Khimiya,

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USSR/Organic Chemistry - Naturally Occurring Substances and Their Synthetic A- E-1
nologs.

' Abst Journal: 1955, 51500) was used in studying the kinetics of the autoxidation. The quantity of O_2 absorbed (and the rate of autoxidation) were determined by measuring the increase in weight of tubes packed with askarit through which the gas from the reaction vessel is passed; the gas is displaced by a stream of O_2 . With an initial flow rate of 0.7 ml O_2 /min/gm I the autoxidation of I practically stops when 0.21 moles O_2 /mole I have been absorbed. Upon displacement of the gas from the reaction vessel with a stream of O_2 the reaction rate increases to 0.56 ml O_2 /min/gm. When an additional 90 ml of gas have been absorbed the reaction rate drops off sharply. Analysis of the gas evolved during the reaction showed the presence of 35-45% CO_2 . The ratio CO_2 : O_2 depends on the quantity of II used and varies little during a particular experiment. The decarboxylation of I does not proceed in an atmosphere of N_2 . The authors are of the opinion that 4 processes are involved in the autoxidation and decarboxylation of I: (1) formation of the hydroperoxide radical from the I radical by C(9); (2) formation of the I radical by the carboxyl group (III); (3) decarboxylation of III; and (4) splitting-off of one H-atom from C(9) of the new molecule of I by interaction with III.

Card 2/2

YERAFYEV, B.V.; DUBOVIK, V.I.

Activation energy in the process of thermal inactivation of
crystallized catalase extracted from the liver of oxen. Vestsi
AN BSSR.Ser.fiz.-tekhn.nav.no.3:31-36 '56. (MLRA 10:1)
(Catalase) (Liver extract) (Activity coefficients)

Yerofeyer, B. V.

USSR/Physical Chemistry - Kinetics, Combustion, Explosions, Topo-
chemistry, Catalysis.

B.9

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3884.

Author : B.V. Yerofeyer, L.T. Mandzeleyev.

Inst : Academy of Sciences of White Russian SSR.

Title : Kinetics of Polymorphous Conversion of α -Resorcin into
 β -Resorcin.

Orig Pub: Vestsi AN BSSR. Ser. fiz.-tekhn. n., Izv. AN BSSR. Ser. fiz.-
tekhn. n., 1956, No 4, 99-110.

Abstract: The kinetics of the conversion of the low temperature modifica-
tion of resorcin into its high temperature modification was stu-
died at 72 to 100°. It is shown that the studied reaction fol-
lows the topokinetic equation $1/(1 - a) - 1 = kt$. The deter-
mined activation energy is 33,900 cal per mole.

Card : 1/1

-14-

YANOVSKY, B.V.; MITSKEVICH, N.I.

Relationship between the rate and depth of conversion in topochemical reactions as exemplified by polymorphic conversion of ammonium nitrate. Sbor.nauch.rab.Inst.khim.AN BSSR no.5:3-12 '56.
(MIRA 10:5)

(Chemical reaction, Rate of)
(Ammonium nitrate)

YEROFEEV, B.Y. PROTASHCHIK, V.A.

Thermal decomposition kinetics of magnesium carbonate and surface area of the solid product (MgO). Part 1: Thermal decomposition kinetics of $MgCO_3 \cdot 3H_2O$ and $MgCO_3 \cdot 4H_2O$. Sbor.nauch.rab.Inst.khim.
AN.BSSR no.5:58-74 '56. (MLRA 10:5)

(Magnesium carbonates)
(Chemical reaction, Rate of)

YEROFEEV, B.V.; PROTASCHIK, V.A.

Thermal decomposition kinetics of magnesium carbonate and surface area of the solid product (MgO). Part 2: Investigation of surface area of magnesium oxide in decomposition products of $MgCO_3 \cdot 3H_2O$ and $MgCO_3 \cdot 4H_2O$ by adsorption of $C^{14}O_2$. Sbor. nauch. rab. Inst. khim. AN BSSR no. 5:75-91 '56. (MLRA 10:5)

(Magnesium carbonates)
(Chemical reaction, Rate of)
(Carbon--Isotopes)

YEROMYEV, B.V.; CHIRKO, A.I.

Initiators and peroxide products of β -carenne autooxidation.
Uch.sap. BGU no.29:15-22 '56. (MIKA 11:11)
(Oxidation) (Carenne)

YERMEYEV, B.V.; CHIRKO, A.I.

Autoxidation kinetics of 3-carene. Uch.zap. B(NU) no.29:3-14
(MIRA 11:11)

'56.

(Oxidation) (Carene)

YEROFEYEV, B.V.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry,
Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 389

Author : B.V. Yerofeyev, I.T. Mendeleyev.

Inst : Academy of Sciences of White-Russian SSR.

Title : Kinetics of Phase Transformation NH_4Br (I) \rightleftharpoons NH_4Br (II).

Orig Pub : Vestsi AM BSSR. Ser. fiz.-tekhn. n., 1957, No 1, 57-63

Abstract : The kinetics of the phase transformation NH_4Br (I) \rightleftharpoons NH_4Br (II) was investigated. It is described by the equation $1 / (1 - \alpha) - 1 = Kt$, where α is the share of the new phase, K is constant and t is time. It is explained as a process proceeding through the formation and growth of kernels of the solid product.

Card 1/1

YERAFEEV, B.V.
YERAFEEV, B.V., akademik.

Status of chemistry in the Academy of Sciences of the White
Russian S.S.R. on the 40th anniversary of the Great October
Revolution. Vestsi AN BSSR Ser. fiz.-tekhn. nav. no.3:33-42
'57. (MIRA 11:1)

1. AN BSSR.

(White Russia--Chemistry)

YEROPETIN, B.V.

M.M.Pavluchenko's reply to the criticism of his concepts of the
mechanism of reactions of solids. Zhur.fiz.khim. 31 no.2:505-508
(MLRA 10:7)
F '57.

1. AN BSSR, Institut khimii, Minsk.
(Chemical reaction--Mechanism) (Solids)

YEROFEEV, B.V.

"Initiation and growth of explosions in liquids and solids" by
B.P.Boudin and A.D.Ioffe. Translated from English by A.I.Gol'binder.
Reviewed by B.V.Yerofeev. Zhur.fiz.mism. 31 no.4:932-933 Ap '57.
(MIRA 10:7)

(Explosions) (Boudin, B.P.) (Ioffe, A.D.)

XEROFEYEV, B.V.

AUTHOR

Mitskevich, N. I., Soroko, T. I., Yerofeyev, B.V., Academician, 20-1-2/54
Belorussian SSR Academy of Sciences

TITLE

Conjugate Decarboxylation on the autoxidation of Isopropylbenzene
in a Mixture with Fatty Acids.
(Sopryazhennoye dekarboksilirovaniye pri avtookislenii izopropil-
benzola v smesi s zhirnymi kislotami -Russian)
Doklady Akad.Nauk SSSR, 1957, Vol 115, Nr 1, pp 103-106 (J.S.S.R.)

PERIODICAL

ABSTRACT

It was shown by the authors in earlier papers that the low-temperature autoxidation of resinous acids is accompanied by a decarboxylation of these acids. In this connection it was interesting to find out whether a conjugate decarboxylation of carbonic acids in a mixture with a hydrocarbon which are subject to autoxidation was possible. The tests made for this purpose show that an autoxidation of isopropylbenzene in a mixture with acetic, butyric, isobutyric and stearic acids is actually accompanied by a conjugate decarboxylation. Thus the oxidation of the hydrocarbon induces the connected decarboxylation process of the acid (terminology by Shilov). Since the autoxidation of hydrocarbons, especially at higher temperatures, may lead to the formation of acids capable, in the course of further autoxidation, of a conjugate decarboxylation, the discovery of this phenomenon is of certain interest for the understanding of the oxidation chemistry of hydrocarbons in general. The self-acting decarboxylation of fatty acids only takes place at considerably higher temperatures than the conjugate decarboxylation discovered by the authors. Ill. 1 shows that the autoxidation

Card 1/3

Conjugate Decarboxylation of the Autoxidation of Iso- 20-1-28/54
propylbenzene in a Mixture with Fatty Acids.

speed of isopropylbenzene is about four times higher in the presence of an acid than without an acid. The initial speed was highest, then it decreased. Tab. 1 shows the influence of the acid concentration on this speed. Addition of 1,04 % of isobutyric acid increases the speed more than four-fold. Further additions of acid virtually do not change the amount of oxygen absorbed at all. However, they bring about an increase in the developing CO₂ more than six-fold, at a practically unchanged amount of absorbed oxygen. The test results of the oxydation of isopropylbenzene in a mixture with radioactive acetic acid (labeled on the carboxyl) confirms that the escaping CO₂, at least partly, develops at the expense of the carboxyl group of the added acid. The tests with oxydation of acetic, butyric, isobutyric and stearic acids under analogous conditions but without isopropylbenzene showed that neither an absorption of oxygen nor a formation of CO₂ takes place. The small amount of CO₂ escaping on this occasion probably represents a process which is connected with the autoxydation of these acids. A scheme is proposed for the conjugate decarboxylation process of organic acids with a simultaneous autooxydation of hydrocarbons. It consists of:

1. formation of the radical of isopropylbenzene peroxide,
2. interaction of this radical with the organic acid under formation of a acid radical,
3. the decarboxylation as such,
4. separation of a hydrogen atom from isopropylbenzene in the tertiary group due to interaction

Card 2/3

Conjugate Decarboxylation of the Autoxidation of Iso- 20-1-28/54
propylbenzene in a Mixture with Fatty Acids.

with the produced radical R. This reaction leads to the regeneration
of the initial radical. Thus the reactions 2 - 4 are chain-transmis-
sion reactions. It was demonstrated an induction of the kind mentioned
above really takes place.

(3 illustrations, 1 table and 7 Slavic references)

ASSOCIATION Institute for Chemistry of the Academy of Sciences of the Belorussian
(Institut khimii Akademii Nauk BSSR) SSR.
PRESENTED BY
SUBMITTED 12.1.1957
AVAILABLE Library of Congress.
Card 3/3

YEROFEYEV, B.V.

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(p₂₊₄)

PHASE I BOOK EXPLOITATION

SCV/1285

Akademiya nauk Belorusskoy SSR. Institut khimii

Snornik nauchnykh rabot, vyp. 6 (Collection of Scientific Works of the Institute of Chemistry, Belorussian SSR Academy of Sciences, N. 6) Minsk, Izd-vo AN Belorusskoy SSR, 1958. 271 p. 1,100 copies printed.

Ed.: Yerofeyev, B.V., Academician, BSSR Academy of Sciences; Tech. Ed.: Volokhanovich, I.

PURPOSE: The book is intended for chemists engaged in research in specialized fields.

COVERAGE: The book is a collection of scientific articles dealing with varied subjects, such as problems in electron theory of semiconductors, catalysis, autoxidation of abietic acid, thermodynamics of some reactions of sulfur organic compounds and reactions of alkyl, aryl, acyl-oxy radicals in the liquid phase. Personalities are mentioned in the individual articles. There are 331 references, of which 215 are Soviet, 75 English, 30 German, 10 French, and 1 Finnish.

Card 1/5

Collection of Scientific Works (Cont.)

sov/1285

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Cherches, Kh.A. Nature of Sapinic Acid Isolated from the Resin
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266

AVAILABLE: Library of Congress

Card 5/5

T M /
3 - 20 - 59

YEROFEEV, B.V. [Brafeeu, B.V.]; PRATASHCHIK, V.A.

Determination of surface area of magnesium oxide in a mixture
with magnesium carbonate by chemisorption of radioactive carbon
dioxide. Vestsi AN BSSR. Ser. fiz.-tekhn.nau. no.2:61-66 '58.
(MIRA 11:10)

(Sorption) (Magnesium oxides) (Magnesium carbonates)

YEROFYMOV, B.V. [Brafeeu, B.V.], akademik

Physical chemistry in the Academy of Sciences of the White Russian S.S.R. on the fortieth anniversary of the White Russian S.S.R. Vestsii AN BSSR. Ser. fiz.-tekhn. naу. no.4:16-22 '58.
(MIRA 12:4)

1. AN BSSR.

(White Russia--Chemistry, Physical and theoretical)

YEROFEEV, B.V.; PROTASHCHIK, V.A.

Use of Co60 in the study of contact conditions between metallic cobalt and its formate. Sbor. nauch. rab. Inst. khim. AN BSSR no.6:39-46 '58. (MIRA 11:11)
(Cobalt—Isotopes) (Cobalt formate)

NITSKEVICH, N.I.; SOROKO, T.I.; YEROFEYEV, B.V.

Conjugated decarboxylation in auto-oxidation of abietic acid. Shor.
nauch. rab. Inst. khim. AN BSSR no.6:66-82 '58. (MIRA 11:11)
(Oxidation) (Abietic acid)

YEROFEEV, B.V.; NAUMOVA, S.F.

Thermodynamics of some reactions of sulfur organic compounds.
Sbor. nauch. rab. Inst. khim. AN BSSR no.6:83-91. '58.
(MIRA 11:11)

(Sulfur organic compounds) (Chemical reactions)

SOV/81-59-10-37459

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 10, p 577 (USSR)

AUTHORS: Yerofeyev, B. V., Naumova, S.F.

TITLE: On the Inhibiting Effect of Hydroquinone on Polymerization of Methylmethacrylate

PERIODICAL: Sb. nauchn. rabot In-ta khimii AS BSSR, 1958, Nr 6, pp 190-227

ABSTRACT: The kinetics of the polymerization of methylmethacrylate in the presence of hydroquinone at 65 - 80°C has been investigated. The polymerization rate obeys the equation $(v_0 - v_{inh}^2)/v_{inh} = (k_0'/k_0) k_g MC$ (v_0 and v_{inh} are the rates of polymerization in the absence and the presence of an inhibitor, k_0' , k_0 and k_g are the constants of the rates of the rupture reactions on an inhibitor, at the interaction of two polymer radicals and the reaction of chain growth, M and C are the concentrations of the monomer and the inhibitor, respectively. A diagram of inhibition has been proposed, according to which hydroquinone breaks the reaction chain as a result of the direct interaction with the growing polymer radical with formation of ben-

Card 1/2

SOV/81-59-10-37459

On the Inhibiting Effect of Hydroquinone on Polymerization of Methylmethacrylate

zoquinone and probably semiquinone, as an intermediate product, which also break the chain.

A. Pravednikov

Card 2/2

~~YEROTEEV, B.V.~~

Peroxide theory of A.N. Bakh in the light of modern research.
Sbor. nauch. rab. Inst. khim. AN BSSR no.6:228-233 '58.

(MIRA 11:11)

(Oxidation)

(Chemical reaction--Conditions and laws)

79-28-5-38/69

AUTHORS: Yerofe'ev, R. V., Yemel'yanov, N. P., Naumova, S. F.

TITLE: On the Absorption Spectrum of Cyclohexadiene-1,3 Within the Range of From 220 - 300 $\mu\mu$ (O spektre pogloshcheniya tsiklogeksadiyena-1,3 v oblasti 220 - 300 $\mu\mu$)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr. 5,
pp. 1284 - 1286 (USSR)

ABSTRACT: The absorption spectrum of cyclohexadiene-1,3 in the ultraviolet range has been investigated in a great number of papers (References 1-3), however, the results of different authors do not coincide. In table 1 the magnitudes found by different authors for the maximum positions and the absorption coefficients are mentioned. The given data (table 1) show that the results of different authors who investigated the absorption spectrum of cyclohexadiene-1,3 in the ultraviolet range do first of all not coincide with respect to the number of maxima on the absorption curve. It is possible that this deviation of the data of some scientists is based on the insufficient purity of the investigated product. In connection with this the authors

Card 1/2

79-28-5-38/69

On the Absorption Spectra of Cyclohexadiene-1,3 Within the Range of From
220 - 300 m μ

took the absorption spectrum of cyclohexadiene-1,3 in the ultraviolet range. The product was synthetized in the Laboratory for Technical Analysis of the Institute for Chemistry of the AS USSR and therefore can be looked upon as a purer compound than that of the other scientists. Thus the absorption spectrum of cyclohexadiene-1,3 has, contrary to earlier data, only one maximum within the ultraviolet range (220 - 300 m μ) which as regards its vapors comes to lie on 250.5 m μ ($Lg\epsilon$ 3.73) and, as regards its solutions in hexane and alcohol, on λ 258 m μ ($Lg\epsilon$ 4.00). There are 2 figures, 2 tables and 3 references, none of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Belorusskoy SSR (Institute for Chemistry, AS Belorussian SSR)

SUBMITTED: April 29, 1957

Card 2/2

YEROFEEV, B.V.; MITSKEVICH, N.I.

Effect of the phase conversion NH_4NO_2 (IV) \rightleftharpoons NH_4NO_3 (III) on the
caking of ammonium nitrate. Zhur.prikl.Mhim. 31 no.12:1805-1809
D '58. (MIRA 12:2)

1. Institut Khimii AN BSSR.
(Ammonium nitrate)

YEROFEEV, B.V.

Contemporary ideas on the chemins of autooxidation reactions. Uch.sap.
BGU no.42:53-64 '58.
(Oxidation) (MIRA 12:1)

"APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R001962820015-7

YEROFEEV, B.V.; CHIRKO, A.I.; TIKHON'YEVA, Yu.N.

Investigating the products of the autoxidation of cyclohexylbenzene.
Uch.zap.BGU no.42:127-137 '58. (MIRA 12:1)
(Cyclohexane)

APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R001962820015-7"

LIPETSKER, Mikhail Semenovich; YEROFEEV, Boris Vladimirovich; TVERDOV,
A.A., red.; ASTAKHOVA, I.V., tekhn.red.

[Land utilization in cities, workingmen's settlements, summer and
health resorts] Zemlepol'sovanie v gorodakh, rabochikh, dachnykh
i kurortnykh poselkakh. Moskva, Gos.isd-vo iurid.lit-ry, 1959.
285 p. (MIRA 13:5)

(Lend) (City planning)

THE JOURNAL OF CLIMATE

Metabolic acidosis. Bactericidal factor, 10%.	
Bactericidal factor, 10%.	Metabolic acidosis. Bactericidal factor, 10%.
Metabolic acidosis. Bactericidal factor, 10%.	Metabolic acidosis. Bactericidal factor, 10%.
Metabolic acidosis. Bactericidal factor, 10%.	Metabolic acidosis. Bactericidal factor, 10%.
Metabolic acidosis. Bactericidal factor, 10%.	Metabolic acidosis. Bactericidal factor, 10%.

National Bureau of Chemical Sciences, Bureau of Nonmetallic Materials, Doctor of Chemical Sciences, Technical Services, and Research, Bureau of Chemical Sciences, Bureau of Paleontology, Bureau of Geology, Bureau of Petrology.

This book is intended for chemists, chemical engineers, and technicians in the industry of petroleum, coal-tar products, and carbon blacks.

The book is a compilation of papers presented at four short conferences on the chemistry of organic sulfur compounds and their derivatives, held at the Bureau of Chemical Sciences, National Bureau of Standards, Washington, D. C., March 1951. The participants consisted of six scientists (1) Department of Chemistry, University of Michigan; (2) Department of Chemistry, University of Wisconsin; (3) Department of Chemistry, University of Minnesota; and (4) Department of Chemistry, University of Illinois.

Chemical properties of organic sulfur compounds are presented in three chapters:

- (1) General properties;
- (2) Properties of organic sulfur compounds as related to their occurrence in nature;
- (3) Properties of organic sulfur compounds as related to their occurrence in petroleum and coal-tar products.

Properties of organic sulfur compounds in petroleum and coal-tar products are presented in three chapters:

- (1) Properties of organic sulfur compounds in petroleum;
- (2) Properties of organic sulfur compounds in coal-tar products;
- (3) Properties of organic sulfur compounds in natural gas.

Analogy of Soil Organic Compounds (cont.)

TABLE III. INFLUENCE OF POLYMERISATION CONDITIONS ON THE RATE OF DEPOLARISATION BY OXIDANTS

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APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R001962820015-7"

YEROFEEV, B.V. [Brafeeu, B.V.]; MARDYKIN, V.P.

Products of the reaction of MgI_2 and H_2 in the presence of
 $NiCl_2$ and $NiBr_2$. Vestsi AN BSSR. Ser. fiz.-tekhn. no.2:49-55
'59. (Magnesium) (Nickel compounds)

YEROFEEV, B.V.

Classification of complex reactions, including that of catalytic processes. Sbor. nauch. rab. Inst. fiz.-org. khim. AN BSSR no. 7:3-12 '59. (MIRA 14:4)
(Chemical reactions) (Catalysis)

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S/081/60/000/023/002/b21
A005/A001

11.6 200 also 2209

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 23, p. 65, # 91636

AUTHOR: Yerofeyev, B.V.

TITLE: On the Nature of Autocatalysis in Reactions of Solid Substances

PERIODICAL: Sb. nauchn. rabot. In-t fiz.-organ. khimii AN BSSR, 1959, No. 7,
pp. 13 - 22

TEXT: The possible reasons are considered of self-acceleration in topo-
chemical reaction processes: self-heating, self-disintegration of crystals during
the reaction, chain mechanism and catalytic action of the reaction product. On the
basis of experimental materials (Yerofeyev, B.V., et al., Izv. AN BSSR, 1950, No.
5, p. 145) and the works of other investigators, the author concludes that the
catalytic action of the solid product is the main reason of self-acceleration.
The mechanism of the catalytic action of the solid product consists, in the author's
opinion, in the formation, in the course of the reaction, of a boundary layer with
an altered electron concentration in the interface between the initial substance
and the reaction product. V. Boldyrev

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

YEROFEEV, B.V.; PAVLYUCHENKO, K.V.

Kinetics of the thermal destruction of amylases. Report No.2.
Sbor. nauch. rab. Inst. fiz.-org. khim. AN BSSR no. 7:103-109
'59. (MIRA 14:4)
(Amylase)

YEROFEEV, B.V.; NAUMOVA, S.P.; TSYKALO, L.G.; ZHAVNERKO, K.A.

Polymerisation of 1,3-cyclohexadiene. Dokl. AM BSSR 3 no.3:95-99
Nr '59. (MIR 12:8)
(Cyclohexadiene)

~~YEROFEEV, B.V.; CHIRKO, A.I.; TERNET'YEVA, Yu.N.~~

Kinetics of liquid-phase autoxidation of phenylcyclohexane.
Dokl. AN BSSR 3 no.6:244-248 Je '59. (MIRA 12:10)
(Hexane) (Oxidation)

YEROFEEV, B. V. and NIKIFOROV, N. V.

"The Catalytic Change of Chyclohexine on Copper and Multiplet Theory."

report submitted for the Second International Congress on Catalysis, Paris, 4-9 Jul 60.

YEROFEEV, B. V.

"Reaction Rate of Processes Involving Solids With Different Specific Surfaces."
report submitted for 4th Intl. Symposium on the Reactivity of Solids, Amsterdam, 30 May - 4 June 1960.

YEOFYEV, B. V., PROTASHNIK, V. A.

60
The effect of the Co Admixture on the Termal Decomposition Rate of Cobalt
Formate."

Paper presented at the "Symposium on the Chemical Effects of Transformations"
Prague, Czech., 24-27 October 1960, sponsored by the IAEA.

YEROFEEV, B.V.

LATYSHEV, G.D.

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PHASE I BOOK EXPLOITATION Sov/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy
energii. Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful
Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960.
449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

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Sciences Uzbek SSR. Editorial Board: A. A. Abdullaev, Can-
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USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

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Transactions of the Tashkent (Cont.)

sov/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor
of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G.
Babakhaneva.

PURPOSE : The publication is intended for scientific workers and
specialists employed in enterprises where radioactive isotopes
and nuclear radiation are used for research in chemical, geo-
logical, and technological fields.

COVERAGE: This collection of 133 articles represents the second
volume of the Transactions of the Tashkent Conference on the
Peaceful Uses of Atomic Energy. The individual articles deal
with a wide range of problems in the field of nuclear radiation,
including: production and chemical analysis of radioactive
isotopes; investigation of the kinetics of chemical reactions
by means of isotopes; application of spectral analysis for the
manufacturing of radioactive preparations; radioactive methods
for determining the content of elements in the rocks; and an
analysis of methods for obtaining pure substances. Certain

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Instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

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RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION
IN ENGINEERING AND GEOLOGY

Lobanov, Ye. M. [Institut yadernoy fiziki UzSSR - Institute of Nuclear Physics AS UzSSR]. Application of Radioactive Isotopes and Nuclear Radiation in Uzbekistan

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Taksar, I. M., and V. A. Yanushkovskiy [Institut fiziki AN Latv SSR - Institute of Physics AS Latvian SSR]. Problems of the Typification of Automatic-Control Apparatus Based on the Use of Radionactive Isotopes

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- Radium Institute imeni V.G. Khlopin AS USSR]. State of the Micro-
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- Yerofeyev, B. V., and V. A. Protashchik [Institute of Phy-
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- Levin, V. I., and V. V. Bochkarev [Ministry of Health USSR].
Obtaining Radioactive Isotopes in the Reactors by Means of
Threshold, Consecutive, and Secondary Nuclear Reactions 368
- Bukharov, I. N. [Ministry of Health USSR]. Peculiarities in
Identification and Analysis of the Tagged Organic Compounds 372

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S/081/61/000/013/004/028
B105/B201

AUTHOR: Yerofeyev B. V.

TITLE: Kinetics of low-temperature oxidation of terpenes and related hydrocarbons

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1961, 70, abstract 13E3513 (Vopr. khimii terpenov i terpenoidov. Vil'nyus, 1960, 103 - 111)

TEXT: On the basis of a study of the chain mechanism of auto-oxidation of unsaturated hydrocarbons (RH), which includes the initiation of the chains during the interaction of RH with a metal salt (MX_2) according to the reactions $RH + MX_2 \rightarrow R^\cdot + MX + HX$ (1) and $RH + MX \rightarrow M + R^\cdot + HX$ (2), and from the reaction of chain growth and rupture, the author concludes that the oxidation rate V is proportional to $[RH]^2$ and $1/v$ to the quantity $1/[MX_2]$. The latter function was observed during the oxidation of Δ^3 -p-menthene. For phenyl cyclohexane V is proportional to $[RH]^5$. In order to explain this Card 1/2

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B105/B201

Kinetics of low-temperature...

fact, the author considers the initiation of the formation of the complex $[M(RH)_z]X_2$ (I) to be the first stage and assumes that, according to the structure of RH, the nature of the initiator, and the experimental conditions, the initiation proceeds either according to reactions (1) and (2), or to the reactions $zRH + MX_2 \rightarrow I$ and $I \rightarrow 2R' + M + (z - 2)RH + 2HX$, which leads to different dependences of V on [RH]. [Abstracter's note: Complete translation].

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YEROFAYEV, B.Y. [Braffou, B.V.]; CHIRKO, A.I. [Chyrko, A.I.]

Dimer products of the autoxidation of unsaturated hydrocarbons.
Vestsi AN BSSR. Ser.fiz.-tekhn. no.1:51-56 '60. (MIR 13:6)
(Hydrocarbons) (Polymers) (Oxidation)

YEROFEEV, B.V. [Erafeeu, B.V.]; KLYUEV, Yu.P. [Kliueu, IU.P.]

Studying the mechanism of transformation of α -pinene under the influence of orthophosphoric acid applied to activated birch charcoal. Vestsi AN BSSR. Ser. Fiz.-tekhn. nav. no. 4:29-41
(MIRA 14:1)

'60. (Pinene) (Orthophosphoric acid)

S/081/61/000/021/093/094
B106/B203

AUTHORS: Yerofeyev, B. V., Naumova, S. F., Kulevskaya, I. V.

TITLE: Initiation of ethylene polymerization by a complex of etherates of Grignard compounds and titanium tetrachloride

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 507, abstract 21B55. (Sb. nauchn. rabot. Inst. Fiz.-organ. khimii AN BSSR, no. 8, 1960, 80 - 82)

TEXT: It was shown that etherates of butyl magnesium bromide and phenyl magnesium bromide synthesized in anisole at 100 - 120°C formed an active catalyst with $TiCl_4$ for the polymerization of ethylene. The polymer yield was doubled when increasing the ratio $RMgX : TiCl_4$ from 1.4 to 1.7. Etherates containing $(C_2H_5)_2O$ did not form an active catalyst with $TiCl_4$.
[Abstracter's note: Complete translation.]

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B106/B203

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AUTHORS: Shlyk, V. G., Yerofeyev, B. V.

TITLE: Initiation of polymerization by systems of salts of transition metals and peroxide compounds

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 507, abstract 21H57 (Sb. nauchn. rabot. Inst. Fiz.-organ. khimii AN BSSR, no. 8, 1960, 83 - 87)

TEXT: The initiation of polymerization of methyl methacrylate and styrene by systems of cumene hydroperoxide (I) and manganese stearate (II) was examined. The kinetics of this process was gravimetrically studied. The rate of polymerization in vacuum at 60°C in the presence of I is directly proportional to the square root of the concentration of I. Additions of II at first increase the rate of polymerization of both monomers. Then, a limiting concentration of II is reached, and further additions of II do not affect the rate of polymerization any longer. It was concluded that initiation did not proceed according to a redox mechanism. II probably does not react with I but with a certain intermediate, the con-

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B106/B203

Initiation of polymerization by systems....

centration of which is considerably lower than that of II. Replacement of the radicals forming in thermal decomposition of I by radicals of stearate II is possible. As to the rate of polymerization, these radicals are more active than the radicals initially forming in decomposition of I.
[Abstracter's note: Complete translation.]

X

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YEROFEYEV, B.V., MITSKEVICH, N.I.; MAYOROVA, M.V.

Initiation of decarboxylation by anthracene. Sbor. nauch. rab.
Inst. fiz.-org. khim. AN BSSR no 8693-98 '60. (MIRA 14:3)

I. Institut fisiko-organicheskoy khimii AN BSSR.
(Anthracene) (Carboxyl group)

ARIKO, N.G., YIROKOV, B.V.

Effect of saturated carboxylic acids on the rate of cyclohexene
oxidation. Sbor.nauch. rab. Inst. fiz.-org. chim. AN BSSR no.8:155-
160 '60. (MIRA 14.3)

M. Belorusskiy gosudarstvennyy universitet
(Acids, Organic) (cyclohexene) (oxidation)

S/081/61/000/022/019/076
B102/B108

AUTHORS:

Yerofeyev, B. V., Ushakhina, N. A.

TITLE:

Inhibited self-oxidation of cyclohexanone

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 146, abstract
22Zh33 (Sb. nauchn. rabot. In-t Fiz.-organ. khimii AN BSSR,
no. 8, 1960, 161-167)

TEXT: It is shown that, owing to its effect on the initiation process, hydroquinone decelerates the oxidation of cyclohexanone ($85-95^{\circ}\text{C}$) as initiated by cobalt acetate. Activation energy with respect to reaction rate is 21,600 cal, with respect to the induction period 23,900 cal, which values are almost equal. Consequently, the activation energy of the process coincides with the activation energy of the initiation period. ✓
[Abstracter's note: Complete translation.]

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S/170/60/003/012/014/015
B019/B056

AUTHORS:

Yefofevav, B. V., Academician of the AS BSSR, Tsvyer, V. N.,
Corresponding Member of the AS BBS, Franyuk, V. A.,
Candidate of Physical and Mathematical Sciences

TITLE:

Nikolay Sergeyevich Akulov (On the Occasion of His 60th
Birthday)

PERIODICAL:

Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 12,
pp. 119-122

TEXT: On September 12, 1960, Academician of the AS BSSR, Professor N. S. Akulov was 60. He looks back upon a 35 years' activity as head of the Laboratory of Problems of Physics of the FTI AS BSSR. Akulov finished high school in 1919, 1920 he joined the Red Army, and, after having been demobilized in 1921, he began to study at the khimicheskiy fakul'tet Kubanskogo politekhnicheskogo institut (Chemical Department of the Kuban Polytechnic Institute). From 1922 onward he studied at the fiziko-matematicheskiy fakul'tet (Department of Physics and Mathematics) at Moscow. Under the guidance of professor M. A. Ingaryshov he studied the

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